

<b>Notice of Allowability</b>	Application No.	Applicant(s)	
	10/013,089	PAN ET AL.	
	Examiner	Art Unit	
	Jennifer M. Dolan	2813	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to the Amdt. of 4/13/04.
2.  The allowed claim(s) is/are 1-6, 14, 15 and 17.
3.  The drawings filed on 17 December 2003 are accepted by the Examiner.
4.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All
  - b)  Some\*
  - c)  None
 of the:
  1.  Certified copies of the priority documents have been received.
  2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6.  CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a)  including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_\_.
  - (b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

#### Attachment(s)

1.  Notice of References Cited (PTO-892)
2.  Notice of Draftsperson's Patent Drawing Review (PTO-948)
3.  Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4.  Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5.  Notice of Informal Patent Application (PTO-152)
6.  Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7.  Examiner's Amendment/Comment
8.  Examiner's Statement of Reasons for Allowance
9.  Other \_\_\_\_\_.

  
**CARL WHITEHEAD, JR.**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2800**

## DETAILED ACTION

### *Allowable Subject Matter*

1. Claims 1-6, 14, 15, and 17 are allowed.
2. The following is an examiner's statement of reasons for allowance: The primary reason for allowance is that the prior art fails to teach positioning kits with the specified geometry extending from interior sidewalls of a RTP housing including a quartz tube. U.S. Patent No. 6,051,512 to Sommer et al. teaches the closest geometry to that of the claimed invention, with three positioning kits extending from the bottom of a quartz tube for holding and positioning individual semiconductor wafers. The Sommer reference, however, lacks the following limitations recited in the independent claims: Sommer discloses only three positioning kits, rather than four or more; the positioning kits are simply ledges rather than grooves; bare wafers are held by the positioning kits rather than a wafer tray holding a wafer; and the positioning kits all extend from the bottom wall of the tube, rather than extending from back, first, and second sidewalls.

U.S. Patent Publication No. 2003/0029570 to Kawamura et al. discloses a wafer boat for use in a rapid thermal processing housing, wherein the wafer boat has four or more positioning kits comprising notches for holding a wafer tray and semiconductor wafer. Kawamura, however, only broadly suggests the use of the wafer boat in an RTP housing, and thus provides no suggestion of extending the positioning kits from the sidewalls of the RTP housing/quartz tube rather than from a wafer boat.

Although a combination of Sommer and Kawamura would satisfy most of the limitations of independent claims 1 and 14, it is the examiner's opinion that such a combination would not

be reasonable or suggested to a person having ordinary skill in the art, since Sommer and Kawamura teach vastly different RTP chamber geometries (a sideways tube geometry in which a wafer is supported by a bottom side of the tube and has a definite position relative to the tube in Sommer, as opposed to a vertical tube overlying a wafer boat, in which the wafer is supported entirely by the wafer boat and does not have a definite location with respect to the tube in Kawamura ), with features designed specifically for the respective geometries. Additionally, there is no motivation in the prior art for attaching positioning kits to each of a back, first, and second sidewall of the quartz tube/housing.

3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer M. Dolan whose telephone number is (571) 272-1690. The examiner can normally be reached on Monday-Friday 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl W. Whitehead, Jr. can be reached on (571) 272-1702. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jennifer M. Dolan  
Examiner  
Art Unit 2813

jmd